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Wain. Reduced states have been mistaken for *Cl. caespiticia* (Pers.) Flk., *Cl. botrytes* (Hag.) Willd., and a specimen without visible thallus reposing in my herbarium was so named by its collector (and he was no novice), *Baeomyces rosus*. *Cl. mitrula* is represented in my herbarium by forty-seven specimens, from as many different localities. I possess examples from Texas, Nebraska, Iowa and No. Dakota as a western limit, and every State on the Atlantic seaboard from Florida to Massachusetts and from many stations within the area thus bounded. I have not found it in Maine, and it seems to be rare in British America. Cuban specimens examined, but identified by others, have an enormously developed thallus and represent an extreme variation for the plant deserving recognition by name.

Rockland, Maine.

### CHARLES R. BARNES AND JULIUS RÖLL'S COLLECTION OF MOSSES IN NORTH AMERICA.

By E. J. HILL.

In the obituary notice of Charles Reed Barnes in the May number of THE BRYOLOGIST most of his contributions to American bryology are mentioned. But there is one I have not seen noticed in such a connection. This with additional bibliographical and historical matter, gives the occasion for the following statements.

In 1888 and 1889 a collecting trip to North America was made by Dr. Julius Röhl, of Darmstadt, Germany. It was under the patronage of Dr. G. Dieck, proprietor of a school of forestry at Zöschen, in Merseburg. At New Bremen, Ohio, he was joined by Mr. C. Purpus, and in Manitoba by Mr. M. Riss. These collected insects and the higher plants, Dr. Röhl giving his time chiefly to the cryptogams, the mosses especially. The states in which collections were made are New York, New Jersey, Indiana, Illinois, Wisconsin, Minnesota, North Dakota, Montana, Wyoming, Idaho, Oregon, Washington and British Columbia. New York is scarcely cited in the published account; New Jersey at New Durham, mainly for sphagna, in which Röhl is a specialist. The collecting ground in Indiana and Illinois is the region bordering Lake Michigan from the dune locality at its south end, whose peaty areas abound in sphagna, to the dune locality north of Waukegan, Ill. In Wisconsin, Milwaukee, and Princeton on Fox River were the main centers for collecting. It is stated that most attention was bestowed on the west coast and the Cascade Mountains (Vancouver Island, Washington and Oregon), the Rocky Mountains in Idaho, Wyoming and Montana, and the region of the Great Lakes in Indiana, Illinois and Wisconsin, the greater part of citations of localities being from these areas.

Eighty-one species of Lichens were collected, assigned to Dr. J. Müller, of Genf, and published in the Regensburg Flora, 1889. The new species, varieties and forms of mosses were first published in the Botanisches Centralblatt of Uhlworm and Kiohl, Vols. 44 and 45, 1890, 1891, under the general title: Vorläufige Mittheilungen über die von mir im Jahre 1888, in

Nord-Amerika gesammelten neuen Arten, Varietäten und Formen der Laubmoose, Torfmoose und Lebermoose. This was afterwards included in an article in *Hedwigia*, with considerable more matter added in explanatory notes, discussions of geographical distribution and other kindred topics, together with a complete list of all the species of mosses collected and their respective localities. This is entitled, *Nordamerikanische Laubmoose, Torfmoose und Lebermoose, gesammelt von Dr. Julius Röhl in Darmstadt* (*Hedw.* 32:181-321. 1893). As a *Separat-Ausdruck* aus "*Hedwigia*," 1893, Heft 4, it may be obtained in a thin volume, and is the one I use in work with the mosses of the region.

The material obtained was divided for work among several bryologists, mostly specialists in some of the groups their labors covered. The *Hepaticae*, about 35 species, were elaborated by Dr. Stephani, of Leipzig. Two new species were made, *Madotheca Roellii*, Kitchelos Lake, Cascades, Wash., its range since considerably extended both north and south,\* and *Marchantia Oregonensis*, Mount Hood, Oregon. This is not considered specifically distinct by Dr. Marshall A. Howe in his *Hepaticae and Anthocerotae of California* (*Mem. Torr. Bot. Club*, 7: 62. 1899), but only a peculiarity of *M. polymorpha*, as the distinctive character adduced, mainly the spiny and toothed appendages of the ventral scales, are not held to be of specific worth. Dr. Röhl naturally had the *Sphagna* for his part, taking occasion again to bring out his views of grouping them in a natural series of forms and varieties under certain specific heads, mainly those most commonly recognized. Twenty-seven new varieties were made, and a numerous progeny of forms, very bewildering when one tries to match them with specimens. One feels that a new set would do just as well for almost any region. Röhl's contribution, with two plates in illustration, takes up a fourth of the article in *Hedwigia*.

The other mosses, Laubmoose or Leaf-mosses, as the Germans call them, have 27 new species, 3 new subspecies and 17 new varieties. These will be found incorporated in the appendix to the "*Analytic Keys to the Genera and Species of North American Mosses*," by Barnes and Heald, Madison, Wis., 1896, except the new varieties of *sphagna* made by Dr. Röhl. The *Pleurocarpi* were assigned to Renauld and Cardot. In the *Acrocarpi* Dr. Carl Müller, of Halle, had the *Grimmiaceae*, Dr. Venturi, of Trent, the *Orthotrichaceae*, Dr. Brotherus, of Helsingfors, the rest, except such as fell to Professor Barnes, then at Madison, Wis. These comprised the schizocarpous genus *Andreaea*, all the *cleistocarpi* and the groups *Weissiaceae*, *Leucobryaceae*, *Fissidentaceae*, *Ceratodontaceae*, *Eustichiaceae*. The bibliographical record for Prof. Barnes is, *Hedw.* 32:195-203. 1893. Three new varieties of *Dicranum Bonjeani* De Not (*D. palustre*, La Pyl, of the Manual), were all that were added by him. var. *Schlotheimeri*, Oregon, Washington, Wyoming and Idaho; var. *Roellii*, Vancouver; var. *alatum*, Chicago, Ill. These appeared in *Bot. Centralb.* 44: 386. 1890. With the exception of *Bryum Knowltoni* Barnes,\* from Newfoundland, they are, as

\*See under *Porella Roellii*, Steph. *Mem. Torr. Bot. Club*, 7: 165. 1899.

\**Bot. Gaz.* 14: 44. 1889.

far as I am aware, the only additions to systematic bryology in the way of new species that he made. In fact he was rather conservative in his views of species-making, being averse to divisions along lines of minute distinction. In his explanatory note in connection with *D. Bonjeani* in Hedwigia, he says; "I have not deemed it worth while to describe the forms of *D. palustre*, since they are connected with the swamp forms of *D. scoparium*. If one did this he would be able to rival the lists of individual sphagna." He is contented with a diagrammatic scheme showing the relationship of his three varieties and others of American or European origin, with *D. scoparium*, *D. Bonjeani* and *D. undulatum*.

Aside from the interest in this little volume to me as a helpful companion in the familiar collecting ground of my home region, as well as to some extent in the neighboring state of Wisconsin, I prize it also as showing that Prof. Barnes was deemed worthy of association in the elaboration of Röll's collection of mosses with some of the most distinguished contemporary bryologists of Europe.

Chicago, Ill , May, 1910.

### MOSSSES OF COOK COUNTY, ILLINOIS.

BY WILLIAM WIRT CALKINS.

The following species of mosses growing within a radius of ten to twenty-two miles from Chicago have been collected by the writer during the last two years. The surface of Cook County being mainly prairie lands, cut through here and there by small streams or creeks, is not especially adapted to the growth of mosses; however, narrow belts of timber border the water courses, and in several localities the silurian limestone outcroppings afford congenial substrata for the propagation of some species, as, also, of several species of lichens. On the Lake Michigan shore, north of Chicago twenty-two miles, high bluffs of clay extend for several miles; these are from eighty to one hundred feet in height, are clothed with various trees, shrubs and grasses, and slope off rather abruptly to the shore. A number of ravines have been cut by water down through the bluffs and these sustain a primeval forest growth. Many rare plants are peculiar to these habitats and do not occur inland. The conditions here are favorable to mosses. The writer has not thus far explored fully the localities named and probably many other species than those named herein will be found. My friend, E. J. Hill, so well known as an eminent botanist, estimates the Cook County species of mosses at about fifty. It will be seen that I have located that number. My excuse for publishing the list now is, that I believe no enumeration has ever been made, hence, that my list will be of some value, and locally at least, call attention to this branch of our flora. I being only an amateur in the study of mosses, have had all species determined by competent authorities in order to give more value to the paper. It gives me pleasure to state my sense of obligation to the following; Mrs. Annie Morrill Smith; Miss Edith A. Warner; Mrs. Elizabeth M. Dunham; Miss Alice L. Crockett; Mrs. B. J. Handy; Prof. E. B. Chamberlain; Prof. E. J. Hill; Mr. C. C. Kingman; Rev. H. Dupret; Dr. Le Roy Andrews; Prof. N. L. T. Nelson; Mr. F. E. McDonald and Dr. Brenckle.